

WHAT IS CLAIMED IS:

SUBA 1
1. A terminal device comprising:

(a) a memory storing therein at least two programs grouped into at least two
5 groups with respect to a function of a program; and

(b) a management table which stores first data about whether each of said
programs is used or not, and removes a non-used program from said memory.

2. The terminal device as set forth in claim 1, wherein said memory receives
10 only a necessary program from a program-transferring device, in accordance with
said first data.

3. The terminal device as set forth in claim 1, further comprising a first
device to carry out a program, said first device causing said memory to boot a used
15 program to said first device with reference to said first data, if a check sum of said
memory is not coincident with a check sum of said first device, and copying
programs stored in said first device into said memory.

4. The terminal device as set forth in claim 1, wherein said terminal device is
20 a portable one.

5. A terminal device comprising:

(a) a first memory storing at least one program therein;

(b) a second memory storing both a main program and an application
25 program for carrying out requisite functions;

(c) a third memory storing data about said main and application programs in
the form of a table;

(d) a signal-receiving and -transmitting circuit for receiving a signal from
and transmitting a signal to a base station; and

(e) a central processing unit which controls an operation of said first to third memories and said signal-receiving and -transmitting circuit.

5 6. The terminal device as set forth in claim 5, wherein said third memory stores data about whether said main program is used or not and further whether said application program is used or not.

10 7. The terminal device as set forth in claim 5, wherein said third memory stores (a) a program ID of each of said programs, (b) a flag indicating whether each of said programs is used or not, (c) a packet number being transferred from a program-transferring device, (d) a final packet number transferred from a program-transferring device, (e) an initial address of an address in which a program is stored, and (f) a length of a program.

15 8. The terminal device as set forth in claim 5, wherein said first memory receives only a necessary program from a program-transferring device, in accordance with said data stored in said third memory.

20 9. The terminal device as set forth in claim 5, wherein said second memory causes said first memory to boot a used program to said second memory with reference to said data stored in said third memory, if a check sum of said first memory is not coincident with a check sum of said third memory, and copies programs stored in said third memory into said first memory.

25 10. The terminal device as set forth in claim 5, wherein said first memory is comprised of an electrically erasable programmable read only memory (EEPROM).

11. The terminal device as set forth in claim 5, wherein said second memory

is comprised of a random access memory (RAM).

12. The terminal device as set forth in claim 5, wherein said third memory is comprised of an electrically erasable programmable read only memory (EEPROM).

13. The terminal device as set forth in claim 5, further comprising a power source electrically connected to said second memory such that said second memory can keep storing data even when said terminal device is turned off.

14. The terminal device as set forth in claim 5, wherein said terminal device is a portable one.

15. A system for changing programs stored in a terminal device, comprising:

(a) a base station;

(b) a program-transferring device which transfers a program to said base station; and

(c) a terminal device which downloads a program thereinto from said program-transferring device through said base station,

said terminal device including:

(c1) a memory storing therein at least two programs grouped into at least two groups with respect to a function of a program; and

(c2) a management table which stores first data about whether said programs are used or not, and removes a non-used program from said memory.

16. The system as set forth in claim 15, wherein said program-transferring device transfers only a necessary program to said first memory in accordance with said first data.

17. The system as set forth in claim 15, wherein said program-transferring device ciphers a program to be transferred to said terminal device, in response to a password transmitted from said terminal device.

5 18. The system as set forth in claim 17, wherein said password is a serial number or a telephone number of said terminal device.

19. The system as set forth in claim 15, wherein said terminal device further includes a first device to carry out a program, said first device causing said
10 memory to boot a used program to said first device with reference to said first data, if a check sum of said memory is not coincident with a check sum of said first device, and copying programs stored in said first device into said memory.

20. The system as set forth in claim 15, wherein said program-transferring
15 device is comprised of:

(b1) a memory storing a program;

(b2) a circuit which encodes said program and transmits the thus encoded program to said base station; and

(b3) a controller which controls an operation of said memory and said circuit.

20 21. The system as set forth in claim 15, wherein said terminal device is a portable one.

22. A system for changing programs stored in a terminal device, comprising:

25 (a) a base station;

(b) a program-transferring device which transfers a program to said base station; and

(c) a terminal device which downloads a program thereinto from said program-transferring device through said base station,

said terminal device including:

(a) a first memory storing at least one program therein;

(b) a second memory storing both a main program and an application program for carrying out requisite functions;

5 (c) a third memory storing data about said main and application programs in the form of a table;

(d) a signal-receiving and -transmitting circuit for receiving a signal from and transmitting a signal to a base station; and

10 (e) a central processing unit which controls an operation of said first to third memories and said signal-receiving and -transmitting circuit.

23. The system as set forth in claim 22, wherein said program-transferring device transfers only a necessary program to said first memory in accordance with said first data.

15 24. The system as set forth in claim 22, wherein said program-transferring device ciphers a program to be transferred to said terminal device, in response to a password transmitted from said terminal device.

20 25. The system as set forth in claim 24, wherein said password is a serial number or a telephone number of said terminal device.

25 26. The system as set forth in claim 22, wherein said third memory stores data about whether said main program is used or not and further whether said application program is used or not.

27. The system as set forth in claim 22, wherein said third memory stores (a) a program ID of each of said programs, (b) a flag indicating whether each of said programs is used or not, (c) a packet number being transferred from a program-

transferring device, (d) a final packet number transferred from a program-transferring device, (e) an initial address of an address in which a program is stored, and (f) a length of a program.

5 28. The system as set forth in claim 22, wherein said first memory receives only a necessary program from a program-transferring device, in accordance with said data stored in said third memory.

10 29. The system as set forth in claim 22, wherein said second memory causes said first memory to boot a used program to said second memory with reference to said data stored in said third memory, if a check sum of said first memory is not coincident with a check sum of said third memory, and copies programs stored in said third memory into said first memory.

15 30. The system as set forth in claim 22, wherein said program-transferring device is comprised of:

(b1) a memory storing a program;

(b2) a circuit which encodes said program and transmits the thus encoded program to said base station; and

20 (b3) a controller which controls an operation of said memory and said circuit.

31. The system as set forth in claim 22, wherein said terminal device is a portable one.

25 32. A method of changing programs stored in a terminal device, comprising the steps of:

(a) storing a plurality of programs in groups with respect to a function of a program; and

(b) removing a program among said programs from said memory in

accordance with data about whether each of said programs is used or not.

33. A method of changing programs stored in a terminal device including a first memory having an area to store a program therein, a second memory having an area to carry out a program therein, and a third memory storing data about whether said program stored in said first memory is used or not, comprising the steps of:

(a) calculating a check sum of said first memory;

(b) calculating a check sum of said second memory;

(c) comparing said check sum of said first memory to said check sum of said second memory; and

(d) booting a program from said first memory to said second memory in accordance with data stored in said third memory, if said check sum of said first memory is not coincident with said check sum of said second memory.

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